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SOME TUMORS OF THE FEMALE BREASTS WHICH WERE NOT CARCINOMA.

BY THOMAS H. MANLEY, PH. D., M. D., NEW YORK,
Professor of Surgery in the New York School of Clinical Medicine.

A study of the various hyperplasia and neoplasia of the mammary gland in the female is a theme ever fascinating and attractive to members of our craft, because, first, in no organ of the body is tumor formation so common; second, because next to the uterus, malignant disease of the breast is greatest in frequency; third, because diagnosis is often attended with great difficulty; and last, because definite therapy has not yet been attained.

It has been my privilege to publish, elsewhere, observations going to prove that, without a most discriminating examination and analysis of symptoms, consitutional and local, a woman may suffer a needless mutilation of her body, the amputation of her breast, for merely a cold- abscess of tubucular origin. I therefore wish, now, to give just a glimpse at the anatomy of this suspected organ, and then a few pointers on its management when the seat of pathological changes.

We will first note that the nipple in a maiden lies over the fourth intercostal space, that the gland is of the conglomerate type, having a rich stroma of reticulated fibrous tissue, that it lies on the broad pectoral fascia, and sends out caudate fringes of adenoid tissue, for a distance beyond its periphery. It has a large vascular supply, from the internal mammary, the external mammary, from four intercostals and the long thoracic arteries. It has its nerve supply from both the spinal roots and the sympathetic system and is endowed with an exquisite sensibility. Its lymph-vessels are large and numerous, in their efferent course passing up into the axilla and inward towards the pleura and anterior mediastinum.

It is important to emphasize its vascular supply, because an amputation, operate as one may, always entails a considerable loss of blood.

The nerve supply is mixt, with the influence of the sympathetic preponderating; and hence in disease, reflex irritation acts on the sensorium, by the way of provoking depression of spirits and a state of settled gloom with melancholy. This aspect of mental disturbance is a most characteristic feature of mammary lesion, whether benign or malignant.

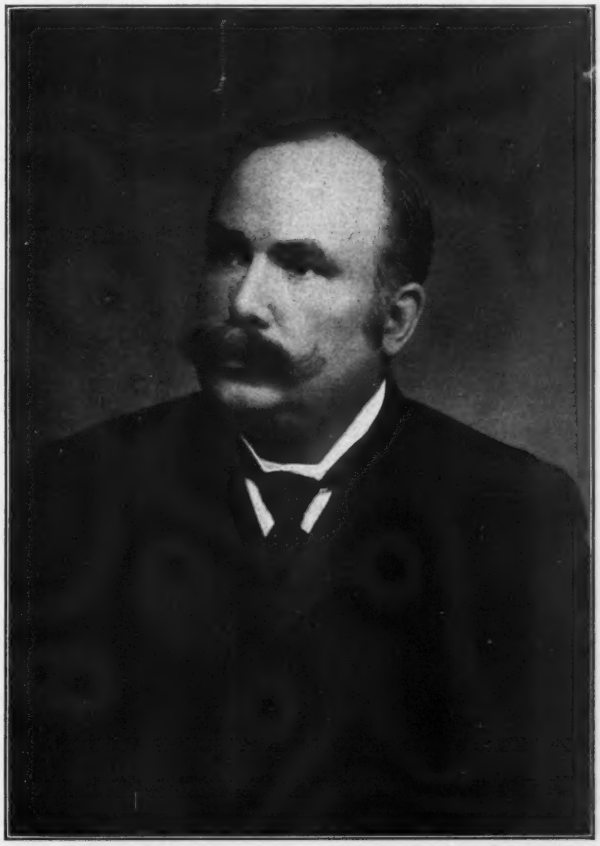
The lymph system in malignant changes is a mode of conveyance and propagation of its lethal elements in a centripetal direction, tho in simple inflammation or irritation of the gland, it likewise may convey the products of defective metabolism, giving rise to intumescence of the lymph nodes in the axilla, or pleural irritation.

Diagnosis occupies a position of pre-eminent importance. The doctrine of *early* and *wide* cure of cancer of the breast has led to the most distastrous consequences. A mere tumefaction or a sensitive nodule has been only too often, the warrant for the total sacrifice of this organ and a maiming of the axilla certain to be followed by a crippled arm.

Certain authors have been insistent on *early operation.* Now it is utterly impossible for any living mortal to pronounce on the pathologic characters of a swelling, at its first onset. Time alone will solve the problem. True, the early operation will cure many of these cases, but when this occurs there is every probability that the process was of a benign character. The following are cases in point:

DERMOID CYST OF BOTH BREASTS.

CASE I.—Mrs. M., 47 years old, rather under medium size, of spare build, married, three children, all alive, eldest 22 years. Fairly good health, but rather nervous. For some time past, indifferent to society and disposed to fits of depression. For nearly a year past was conscious of twinges of pain, first in one breast and then in the other, shooting up into the arm-pit. She had lost flesh of late, had poor digestion, fitful sleep, and was rather anemic.



Dr. T. H. Manley, of New York, is one of the best known surgical writers of America. As a teacher he is also gaining much prominence of late, he being Professor of Surgery in the New York Clinical School of Medicine and clinical instructor at the Metropolitan and Harlem Hospitals. He is a graduate of the Medical Department of New York University, class of 1875.—Editor.

She informed me that she had been to a physician who gave her a course of electricity for the painful mammae.

On examination I found a mass about the size of a pullet's egg in each breast; in one side it lay to the outer border of the gland, in the other, it was above and to the inner margin.

Both breasts were highly sensitive, hard and immovable; lymph nodes enlarged in one side only.

It was my opinion that the neoplasm was benign, either

cystic or solid; suggested exploration with hypodermic needle, but consent was refused. Husband and family were greatly upset about the case, because surgical operation was suggested to turn the nodules out.

It occurred to me advisable, in order to reassure the patient, to recommend further surgical opinion. With this end in view, a letter was given them by me to a well known surgeon of this city requesting his counsel as to what he would recommend me to do. The following morning the husband came to me, with a report that quite took my breath away. My friend, the consultant, had pronounced the case "cancer of the worst kind," appropriated it to himself and was to operate and completely remove both breasts that afternoon!

But the arrangement miscarried; two weeks later both breasts were opened by me, and from each a dermoid was cyst removed. Only slight deformity followed; she remained in bed but one day, union was prompt and the organs spared. No recurrence of any description ever followed. Two years later she died suddenly of apoplexy.

SINGLE DERMOID CYST.

CASE II.—Patient 41 years old, referred to me by Dr. John Dwyer of this city. She was of medium height, fairly good general health, no cancer history in family; married, two children. Two years before she had her left breast removed by the modern operation of clearing out the axilla and sweeping away the whole chest muscles. This left the arm crippled with an exquisitely sensitive, papered scar over the nude ribs. She was now in great distress in anticipation of a repetition of the same operation in the right breast for a tumor which had appeared there. Examination revealed a movable lump in the right mammary gland, of stony hardness, lying to the outer and lower zone of the gland; axillary nodes tumefied, lancinating stabbing pains, in the deep structures. I passt in an exploratory needle, and withdrew a semi-solid, brownish substance mixt with blood. The late Dr. Carl Neitzman examined this and pronounced the case one of dermoid cyst. A few days later, the tumor was rolled out. Repair was rapid.

This operation was performed in the winter of '97. The lady remains yet in perfect health.

ADENO-FIBROMA OF BREAST.

CASE III.—This, my last and most recent case (the patient being in the practice of Dr. Meyer Jackson of this city) was operated on ten days ago. She was a woman of 41 years, married, no children, of fine physique and stout build. For some time past she noticed flits of pain in right breast, health good, but of late, in consequence of worry, she had begun to lose her appetite and former vigor. She consulted first her family physician who referred her to a surgeon, who advised that the best promise for the future lay in having the breast removed, and the axilla cleared, as the glands there were enlarged. She now came under the care of Dr. Jackson, who kindly invited me in. Dr. Jackson had explored with a hollow needle but with negative results. The breast certainly presented so many puzzling features, when she was examined in the sitting posture, that it was impossible to venture a definite opinion. She insisted that she was prepared for operation, but the "breast must not be removed." My line of attack was: first, an exploratory incision; if an encapsulated mass remove it; if, however, an infiltrating, malignant growth were found to close the incision. Our position is always embarrassing at the outset of an operation, when diagnosis is dubious; but when this patient was placed prone on the table with the base of the gland resting on the costal surfaces, its contour was greatly altered. Now a distinct lump stood out, just below and to the outer side of the nipple. This, then was the site of attack. After a free gash dividing the deep fascia and the sheath of the gland we came at once onto an encapsulated tumor about the size of the fist, solid, lobulated. This was shelled out with surprising ease, and almost no hemorrhage. The case was not seen by me after operation, but Dr. Jackson informs me that the results were superb: Complete union of wound in eight days.

Microscopical examination shows the typical formation of adeno-fibroma. These three cases impress me as being of more than passing interest, and teach the important lesson that not infrequently woman's innate knowledge and keen instinct lead the right way when art is baffled. In these cases temerity and indomitable will saved their breasts.

Moreover, we might as well come down a peg, at times, cast our vanity and conceit aside, be frank and honest and freely inform our patient in dubious cases, that *we don't know;* that nothing will definitely remove doubt and clear up mystery, except the free incision.

And finally, let us freely concede that a cure of cancer is not yet in sight, that in the presence of the real scourge our best efforts are but palliative, tho this relief measure may endure thru several years; and let us not, at all events, leave our patient in a worse or more deplorable condition than that in which we found her.

[While it is safe for a man like Professor Manley to assume the position he does, in his own work, in regard to tumors of the breast, it is very unwise—nay, dangerous—for the average practitioner to follow his practice. Tumors of the breast other than cancer are so comparatively rare, and the undoubted cures of true carcinoma so many by early and radical extirpation, that the rule: "Every tumor of a woman's breast should be removed" is the best for general practice—unless, happily, the patient can be seen by an expert such as Dr. Manley, in which case alone is delay justifiable.—EDITOR.]

OBSERVATIONS ON THE DIAGNOSIS OF FRACTURE OF THE SKULL-BASE.

BY JOSEPH RILUS EASTMAN, M. D., INDIANAPOLIS, IND.,
Professor of Surgery and Genito-Urinary Diseases in the Central College of Physicians and Surgeons.

The subcutaneous accumulation of blood may not appear as a diagnostic sign of fracture of the base of the skull. It is well known that visible hemorrhage is usually present as an indication of fracture of the base in such injuries of the mastoid and petrous portions of the temporal, the ethmoid and the sphenoid, and the writer has observed in the clinic of Von Bergmann the case of a boy who sustained fracture of the orbital process of the frontal bone (by being gored by a deer in a Russian forest) in which the lacerated meningeal vessels discharged blood directly thru the fractured orbital plate and lacerated conjunctiva upon the cheek.

It would be interesting to know how many instances of hemorrhage occurring simply as a coincident of fracture of the base of the skull have been taken to indicate fracture. In the case of severe brain injury with indications of compression or contusion of the brain or both, if blood be discovered escaping at the ear, the nose or mouth, one is perhaps too prone to attribute such hemorrhage to fracture of the base without first carefully elminating the possibility of the source of such hemorrhage being entirely independent

of fracture and superficial. Phelps emphasizes this point in his text-book.

A case coming under the observation of the writer in his service at the Indianapolis City Hospital is illustrative in point. A driver of a truck was thrown from his seat and fell, striking the side of his head against the hard pavement. He was brought to the hospital unconscious, and as is often the case, his symptom-complex quite confusing, there being present that mixt syndrome of both compression and contusion of the brain. That he had fallen heavily was evidenced by the presence of an extensive bruise over the right cheek and fracture of the right zygoma. There was present in this case one of the so-called "pathognomonic signs" of fracture of the base of the skull, involving the middle fossa,—to-wit, buccal hemorrhage, dark grumous

Dr. Joseph Rilus Eastman, one of the sons of the late Dr. Joseph Eastman (who was one of the most celebrated surgeons of America), bids fair to equal his distinguisht father in the world of surgery. He is a graduate of the Central College of Physicians and Surgeons, class of 1894, and of the University of Berlin (Germany) 1897. He is one of the professors of surgery in his alma mater, and surgeon to the Eastman Sanatorium and the Indianapolis City Hospital; and already a writer of note.—Editor.

blood being regurgitated in large quantities from the stomach. Upon examination of the mouth, pharynx and nasal passages, no laceration whatever could be found which could be held to account for the hemorrahge. Upon the basis of these facts, the case had been diagnosticated as fracture of the base of the skull. It was assumed that the blood had either found its way thru a fractured ethmoid or sphenoid and had passt thru the posterior nares into the stomach, or had passt from the midle ear thru the Eustachian tube into the pharynx and stomach. It was noted however, upon closer inspection, that a couple of teeth remote from each other in the man's upper jaw, were missing, but strange to say, there was no evidence to show that these teeth had been broken out by the fall. Apparently decayed roots could be seen, their small broken surfaces ragged and almost black in color. There was absolutely no blood escaping from them. They might easily have been dismisst as being in no wise associated with the hemorrhage. By the next day, however, the man's consciousness had returned and he informed us that the two teeth were intact when he fell off the wagon!

The continuous dripping of blood from the exterior auditory meatus or from the nose or mouth if associated with other symptoms, indicative of serious mischief within the cranium, and if it have been occasioned by a violence severe enough to fracture the skull, may be lookt upon of course as strong presumptive evidence of fracture of the base of the skull involving the petrous portion of the temporal bone having occurred. Such bleeding, however, cannot by itself be considered a sign of much importance.

Patients recover completely after severe head injury with copious hemorrhage from the ear. Such evidence is therefore only presumptive, but is, it must be conceded, nevertheless, valuable. As Ericson states, copious hemorrhage from the ear to the extent of many ounces has been known to occur from a fracture of the anterior or inferior part of the meatus auditorius externus in consequence of the condyle of the lower jaw being forcibly driven up against it, the jaw having itself been fractured.

Brain abscess is hardly to be regarded as a symptom of fracture, but may occur, as is well known, as a complication. Fractures of the base are extremely liable to permit the introduction of infective material not only into the bone, but perhaps even into the brain itself. In the case of compound fractures, abscess is less likely to develop for the reason that the external wounds being clearly made out, usually receive careful and prompt attention. Even here, however, when the canons of cleanliness have not been observed, infection may occur followed by brain abscess.

There was recently brought into the Indianapolis City Hospital an old man who had sustained an injury to the head and who was quite unconscious. He had been for several days in the institution, a diagnosis of brain contusion having been made. One day it was discovered that pus was being discharged from his mouth. It was drooling in considerable quantities from the corners of the mouth upon the pillow. The writer at once, it must be confesst, thought of cerebral abscess and of discharge of pus thru the Eustachian tube or from a retropharyngeal accumulation into the mouth. Such an assumption was certainly not unjustifiable in view of many symptoms of brain infection which had been present for several days. It was discovered, however, upon more complete examination that this patient, being an old man, had suffered for several years with an active bronchitis and having been for several days in the dorsal recumbent posture with all conditions favorable for congestion, and being unable (owing to unconsciousness) to discharge the accumulated muco-purulent material from the mouth, it had collected in such quantity as to mislead one.

It is well known that the escape of cerebrospinal fluid from the ear means first, that the fracture must have passt across the internal auditory meatus; second, that the tubular prolongations of the membrances of the brain surrounding the seventh pair of nerves within the meatus must have been torn; third, there must have been establisht a communication between the internal ear and the tympanum; fourth, there must have been a laceration of the membrana tympani. To allow the escape of the cerebrospinal fluid from the nose,

there must be, in addition to the fracture of the nasal roof, a laceration of the mucous membrane below the fracture and of the dura above it. In some cases in which the characteristic watery discharge has appeared at the ear, post-mortem examination has shown that fracture did not involve the internal meatus. In such cases, it is clear that the serous discharge cannot be due to the escape of the cerebrospinal fluid. It is then said by many surgeons to be due to escape of liquor Cotunnii coming from the labyrinth. Holmes calls attention to the difficulty in any case of proving that the watery discharge is not wholly or in part due to this fluid. In case the quantity of the fluid be great, we can scarcely imagine it being all furnisht by a membrane of so limited extent, yet it must be recalled that in certain cases of profuse serous discharge from the ear, after a severe injury to the head, there exists no fracture involving either the internal or middle ear and no communication between these cavities.

Gray reports a case in which many ounces of serous fluid escaped daily from the ear and in which it was shown that no fracture whatever existed, but that the fluid came thru a rupture of the membrani tympani from the membrane lining of the cavity of the tympanum which was intensely vascular. A great quantity of serous fluid proceeded entirely from the inflamed membrane of the middle ear.

Another case was reported by Holmes, of suspected fracture of the base, in which there was copious hemorrhage from the ear, followed by abundant watery discharge. The patient died, and on dissecting the temporal bone most carefully, Holmes could find no fracture in any part of it, and no injury whatsoever in the cavity, or any part of the internal ear. The discharge was owing to a fracture of the lower jaw just below the condyle, the lower fragment having perforated the wall of the meatus auditorius.

The cases here briefly reported furnish a tithe of evidence in support of the proposition that in any case of evidently fractured skull-base it is indiscreet to give hastily an opinion as to the source of the serous, purulent or bloody discharge.

SURGERY OF HYDROCEPHALUS.*

By B. Merrill Ricketts, M. D., Ph. B., Cincinnati, Ohio.

The benefits of surgery in hydrocephalus have not been commensurate with other lesions involving the soft tissue within the cranium even tho operations for the removal of fluid within the ventricles and arachnoid cavities have been numerous (varying in character and degree) for almost two centuries. Experimental operations have been exceedingly limited in number due to the scarcity in the lower animals of pathologic changes within the cranial cavity that induce the secretion of an excessive amount of meningeal fluid. So far as can be determined hydrocephalus has not been produced artificially, and until it can be so produced many obstacles must be surmounted before much is to be gained from experimental work upon lower (normal) animals. However, the desired knowledge may be obtained in due course of time if the greater proportion of cases of hydrocephalus in the human can be carefully observed and operated upon and the results of such operations analyzed and recorded by painstaking investigators. Enough has been accomplisht in the human being suffering from such a condition to give unbounded faith and assurance in surgery as being the only means of relief and cure of hydrocephalus.

*Read before the Western Surgical and Gynecological Association, Denver, Colo., Dec. 28-29, 1903.

PUNCTURE.

Puncture may be cranial, spinal or subcutaneous.

Cranial puncture is to remove fluid from the ventricles or arachnoid cavity by trocar, direct, to escape externally.

Spinal drainage is also thru a cannula introduced into the lumbar spinal meninges for the purpose of removing fluid from the cranial cavity. It will in many cases do so, but it is not certain.

Subcutaneous drainage is accomplisht by allowing the fluid to enter the subcutaneous structures and thereby become absorbed. It was first suggested and practist by Turck, (1885-1890), but without avail.

Dionies (Operationes de chirurgie 3rd. edition, 1736) suggested draining the arachnoid cavity thru the various sutures and fontanelles. This is one of the earliest recorded suggestions of this character, and it no doubt had much to do with the proposition of Rev. Stevenson, 1745, to trephine the cranium of Dean Swift. The two suggestions were epoch-making as operations for hydrocephalus date from that period.

Le Cat punctured for hydrocephalus, October 23, 1744, and he was followed by Remmet of Plymouth, 1778, who used the trocar to remove eighty ounces of fluid from a case of hydrocephalus.

Odier, 1785, removed fluid from such a case with much benefit.

Vose, 1818, successfully treated hydrocephalus by removing the fluid. During the year 1821 Lizars, Frickelton and Delafield, each removed fluid in cases of hydrocephalus with great benefit.

Conquest, 1837, recorded nine cases in which he removed the fluid, one resulting in a cure.

Battersby, 1880, reported three cases of congenital hydocrephalus in which he employed puncture with the evacuation of sanguinous fluid.

Blackman, 1854, reported his own case and sixty-nine cases of hydrocephalus operated upon by various surgeons in various ways with sixteen recoveries and fifty-three deaths.

In the *Glasgow Medical Journal,* 1866-7, 1: 162, is recorded a successful operation for hydrocephalus.

Kid of the same year reported one cured by paracentesis.

Ricketts, B. M., 1891, trephined in acute meningitis, draining the arachnoid space.

Ewart and Dickenson, 1891, reported two cases of chronic hydrocephalus from which they removed the fluid and introduced air.

Mosely, 1894, aspirated the lateral ventricle for hydrocephalus.

Glynn and Thomas, 1895, recorded one case in which they trephined and opened the fourth ventricle with recovery.

Good, 1897, cured by operation a case of hydrocephalus with Jacksonian epilepsy.

Senn, subcutaneous drainage in surgical treatment of hydrocephalus (Alienist and Neurologist St. Louis, August, 1903) reports a case of attempted subcuteaneous drainage of an internal hydrocephalus, the object being to avoid infection. The patient died rather unaccountably—no post-mortem was allowed—tho markt improvement seemed to follow the operation. The case indicated to him, however, that subcutaneous drainage is preferable to open drainage, and proves conclusively that the cerebrospinal fluid is quick-

ly absorbed by the connective tissue elements as soon as it escapes from the ventricles. (A. M. A.)

About one hundred and fifty papers have been contributed to their subject.

COMPRESSION.

Compression by bandages of cloth, adhesive plaster, and rubber bands has been practist as a means of treatment for many years, one of the first to mention this method being Blanc, 1821, who maintained it to be most efficacious in curing certain cases of hydrocephalus.

Bernard, 1825, successfully treated a case of chronic hydrocephalus by compression. Since then a number of operators speak of the method in most complimentary terms.

Fifteen or more papers have been contributed to this subject.

SETON.

The seton (continuous drainage) is one of the earlier methods resorted to for cure of hydrocephalus, many favorable results in the way of benefit and cure having been observed.

Charter, 1845, had a case which resulted in death, while the case reported in the *Irish Hospital Gazette,* Dublin, 1873, recovered.

Feid, 1900, records a case of hydrocephalus cured by use of the seton.

There has been one hundred and thirty-four contributions to this subject.

INJECTION.

Injection of solutions such as iodine, zinc, and various other astringents has been practist since 1856, when Boinst injected tincture of iodine into the arachnoid cavity after the fluid had been removed.

Brainard, 1859, made multiple injections of iodine into an hydrocephalus tumor.

Not many successes have attended or followed such a course of treatment.

The *medical, electrical* and *topical* treatment of hydrocephalus is negative and should not be tolerated.

CONCLUSIONS.

1. Excessive secretion of the cerebral meninges may occur in any form of animal life.
2. The various forms of vegetable life are subject to excessive local or general secretion to a fatal degree.
3. Hydrocephalus, ventricular or meningeal, may develop in the uterus or at any time thruout infant or adult life.
4. The number of cases of spontaneous recovery in either are probably numerous, especially in infant life where the arachnoid is alone involved.
5. All cavities may unite with or without external rupture; when so, it is usually fatal.
6. Spontaneous rupture may occur externally or subcutaneously with an occasional recovery.
7. The effusion may be into the lateral, third or fifth ventricle or it may be in the arachnoid cavity, one or all.
8. A clot in the arachnoid cavity may cause a cyst which will enlarge with all its consequences.
9. Syphilis and rickets have been assigned as causes of hydrocephalus, but such have never been proven; the cause is yet unkown.
10. Sometimes zones of new osseous material are seen scattered here and there in the meninges and sometimes upon or in the brain itself.
11. The septum lucidum is invariably thickened as are the cerebral meninges in general.
12. It is probably the greater number of cases of hydrocephalus whether of the third or fifth ventricle or of the arachnoid variety that can be cured by some form of drainage.
13. Continuous drainage by seton or the repeated use of the trocar has given the better results in the way of benefit or cure.
14. Spinal drainage has been practist but a very limited degree and is, as yet, very undetermined.
15. Subcutaneous drainage has not as yet resulted in a cure, but there seems to be many possibilities for this method.
16. Trephining for drainage is only resorted to in cases where the fontanelles have been closed by bony union.
17. Results from drainage are more favorable if it is done when the presence of fluid is first detected.
18. It is sometimes necessary to drain both hemispheres together with the right and left cerebellar cavity.
19. The secret of curing arachnoid hydrocephalus by drainage probably lies in obliterating the arachnoid cavity. However, this can hardly be so with hydrocephalus of the third, fourth and fifth ventricular variety.
20. The cardinal principle in this as in all operations upon the brain is asepsis.

CHRONIC COLITIS—REPORT OF TWO CASES CURED BY DILATATION OF THE SPHINCTER.

By J. M. Frankenburger, M. D., Kansas City, Mo.,
Professor of Diseases of the Rectum, University Medical College.

Chronic colitis, with its numerous synonyms (diarrhea tubularis, membraneous enteritis, mucous colic, follicular colonic dyspepsia, chronic intestinal catarrh, etc.) has attracted the attention of the medical profession for a long time and was first scientifically described by J. M. DaCosta in 1871. Since that date the disease has been further investigated both in this country and abroad, altho the disease not being a fatal one, and consequently allowing a very limited opportunity for post-mortem investigation explains in part why it has not as yet been conclusively settled as to the exact histological change that takes place in the walls of the intestine, most of the histological investigation having of necessity been made from examination of the dejecta.

It has been conclusively proved by physiological research that the intestine as well as the stomach possesses secretory nerves. This has been shown by repeated experiments of introducing food into the stomach when the glands along the entire intestinal tract at once became active; this before any of the stomach contents had passt into the intestine. The fact being proved that the intestine possesses secretory nerves and that secretory neurosis can occur anywhere there are secretory nerves led Leube and Dieulafoy to advance the theory that membranous colitis was to be regarded as a secretory neurosis. Nothnagel's opinion is that there is no inflammatory condition present in the great majority of these cases, and this belief has caused him to name such cases "colica mucosa," and for the cases where there is present undoubted inflammatory conditions, "enteritis membranacea." Mathieu says: "It is a superficial catarrhal inflammation of the large intestine unassociated with any lesion, at least in recent cases. It is probable that the dessication of the mucous secretion by resorption of its water gives to it a glutinous and then a membranous aspect; however, there may be a more deeply seated inflammation

which may lead even to ulceration, becoming then an interstitial enteritis. Wanbroucq has seen cases of this kind, but the name interstitial enteritis certainly applies only to a small number of severe and inveterate cases of muco-membranous colitis. It is probable that muco-membranous enteritis is not a morbid entity, but that it may depend upon various etiologic factors."

Tuttle, in his recent work on the Disease of the Recutm does not coincide with these views and says that his investigations and clinical observations have lead him to believe that the different types of colitis described as separate diseases are all one and the same, being in different stages of progress or development.

The disease is extremely rare in children, about eighty per cent of the cases occurring in women between the ages

The author of this article, Dr. John M. Frankenburger, of Kansas City, tho so recently graduated as 1893—from the Kansas Medical College—has attained much success both as practitioner and teacher. He is a professor of diseases of the rectum in the University Medical College.—Editor.

of twenty and forty. It is peculiar in neurotics, altho it is an open question as to whether the neurosis brings on the colitis or whether the neurotic element was not an effect rather than a cause.

There being so many conditions which may produce this trouble and there being no one condition which can be accountable for all the cases it is extremely essential that in every case a most thoro examination or examinations be made to ascertain if possible the origin of the disease. A chronic catarrhal inflammation of the appendix, the appendix becoming adherent to the peritoneum and binding the intestine down is said by Tuttle (who reports five cases cured by removal of the adherent appendix) to be one of the causes. The same author also reports two cases caused by floating kidney, both cases of which were cured by fixation of the kidney.

Any inflammatory condition of any of the pelvic organs which will produce adhesive bands attacht to the colon or sigmoid and thus hold the bowels immovable at that point, the friction of the fecal mass passing thru the fixt portion of the bowel may produce a hypertrophic catarrh of the intestine which ultimately terminates in a chronic colitis.

One of the most potent causes is chronic constipation. It it well known that dry, hardened masses of fecal matter may lie in the intestine for a long time and by their irritation set up an inflammation. During all this time the patient may have loose passages. In some instances the mass will fill the intestine, having an opening in its center thru which the discharges pass. Whether or not constipation is responsible for this condition, it is a fact that in almost all of these cases constipation is the rule—diarrhea being very exceptional altho there may be alternation periods of constipation and diarrhea.

Uric acid as a cause has been brought forward by Haig and others, claiming that the excretion of large quantities of uric acid thru the intestinal walls sets up an irritation sufficient to produce an inflammation.

There are three cardinal symptoms in this trouble. First, formation of masses of mucus; second, painful intestinal contraction; third, abnormal changes of intestinal functions. The large mucous stools depend upon excessive secretion of the mucus and a stasis of contents of the colon. The mucus may pass in shape of balls, casts of intestine or strings. In one of my cases the patient came to me to be treated for intestinal worms, thinking the long strings of mucus she was passing were worms. If these mucus-masses are floated in water and teased apart they will in many cases assume a tubular appearance and on close inspection will be seen to be an exact mucous caste of the bowel. Microscopic examination of this mucus reveals absolutely nothing of a definite pathological nature, the membranes appearing in most cases transparent and without structure.

The painful intestinal contraction preceding the passage of the mass of mucus is very hard to understand. The pain generally starts in the descending colon where the passage of the mucus becomes slower than in the ascending or transverse colon, increases in intensity as the mucus travels downward and terminates in a crisis as the mucus reaches the narrowest portion of the colon the recto-sigmoid juncture. Once in the rectum the mucus is quickly expelled and the acute pain is over for that attack. There will be passages of large, well formed fecal matter with no pain whatever, yet in a short time a passage of mucus will take place with different degrees of pain varying from an unpleasant sickening sensation to an agonizing paroxysm. After the passage of the mucus the patient is relieved and beyond a soreness over the colon have no pain until the next passage. In some cases the pain may be mistaken for that of the passage of gall-stones or renal calculi. In many cases the passage of this mucus will take place in the early morning and there will be no further trouble during the rest of the twenty-four hours. The most rational theory of the pain seems to be that it is caused by a tetanic contraction of the colon preceding the passage of the mucus in the same manner as in distention of the colon from gas in flatulent colic.

Chronic gastro-intestinal indisgestion is almost invari-

ably the rule, the patient having a capricious appetite.

The mental disturbance in these cases is quite markt. Personally I have never seen a case of chronic colitis which did not in a greater or less degree exhibit signs of neurasthenia, altho in some of these cases the depression of spirits and tendency to melancholia were undoubtedly a secondary affair caused by the continued intestinal pain; the same result that may follow any continued abdominal pain. In a typical case where there is present the three cardinal symptoms, mucous passages, abdominal pain and neurasthenia, the diagnosis is not difficult to make yet I have seen cases which had been treated for a variety of diseases.

From extensive readings upon this subject and from my own clinical observations I am convinced that in the disease commonly called chronic colitis we have two distinct and separate diseases: One a neurosis in the intestine, with large passages of mucus and an intense abdominal pain, and a markt degree of neurasthenia with a tendency to melancholia; the second, a chronic inflammation of the walls of the intestine which can be verified by direct inspection of the sigmoid by atmospheric distention thru the long Kelly tube and by the histological evidence of chronic catarrhal inflammation, large passages of mucus with less abdominal pain and the neurasthenic element not so pronounced as in the former.

I will not say anything about the treatment of this trouble but desire to report the following cases:

CASE REPORTS.

July 10th, 1903, was called by Dr. Gordon A. Beedle of this city to see a case of external fistula. The patient presented a typical history of membranous colitis of sixteen to eighteen months' duration, during this time passing large masses of mucus and membranous casts of the intestine. We operated on the fistula and dilated the sphincters. The colitis grew progressively better and in the course of a few weeks the patient was entirely well both of his fistula and colitis, has gained fifty pounds in weight, and is to-day a healthy man free from any intestinal disorder whatever.

Mrs S., aged forty years, had chronic colitis of two years' standing. Had been treated by different doctors by different modes of treatment, at one time being kept in bed for three months. She first came under my care February 6th, 1903. She was emaciated, depresst, decidedly neurasthenic and seemed to be in a condition bordering on melancholia. She was constipated, but about every two weeks for a space of twenty-four hours she would have a diarrhea. Her pain started from the hepatic flexure of the colon, passt across the transverse and down the descending colon and in its passage thru the sigmoid into the rectum the pain became almost unbearable. She would pass from one-half of a pint to a pint of stringy mucus and after its passage was totally exhausted for several hours. Examination by direct inspection of the descending colon with the long tubular sigmoidoscope revealed no visible evidence of inflammation of the mucous membrane of the intestine. Treatments and medications of all kinds while alleviating to some extent her suffering did not seem in any manner to tend to any improvement in her condition. Thinking that perhaps she might have been overtreated I even abstained from giving her any treatment or medication for a few weeks but during that time she became much worse. I advised an operation, intending to make an opening in the ascending colon and irrigate the bowel thru to the rectum, but the patient declined the operation. On August 20th, 1903, I was called to see her when she was suffering from an attack of unusual severity and on my way to the house met Dr. Beedle, who informed me that his case, the one where I had dilated the sphincter, was recovering from his colitis. When I reacht my patient's house I found her suffering from pain almost as intense as that of child-birth and bearing the former case in mind suggested to her that I dilate her sphincter. She said she was tired of life anyway and was ready for anything that would offer relief. I sent for an anesthetist and dilated the patient's sphincter thoroly. I dilated it so thoroly that she did not regain control of it for four weeks and at the end of that time she was well of her colitis, has had no recurrence at all of her trouble, has gained over twenty pounds in weight and is to-day a well woman. Since the day when her sphincter was dilated she has had no treatment of any nature and has taken no medicine whatever.

I was unable to find anything at all bearing upon this method of treatment for this condition in any of the text books and the only literature I can find on the subject is a recent article by Rousell, of Paris, who reports five cases of muco-membranous entro-colitis cured by forcible dilatation of the sphincter. He attributes the result of his cases to the dilatation of the sphincter arousing the contractility of the atonic colon and doing away with the spasmodic contraction of the lower part of the intestine. I am not prepared to dispute or defend this theory and am not from my experience with these two cases alone prepared to advance any theory as to just how these results were obtained.

URETHRAL STRICTURES — THEIR FREQUENCY AND TREATMENT.

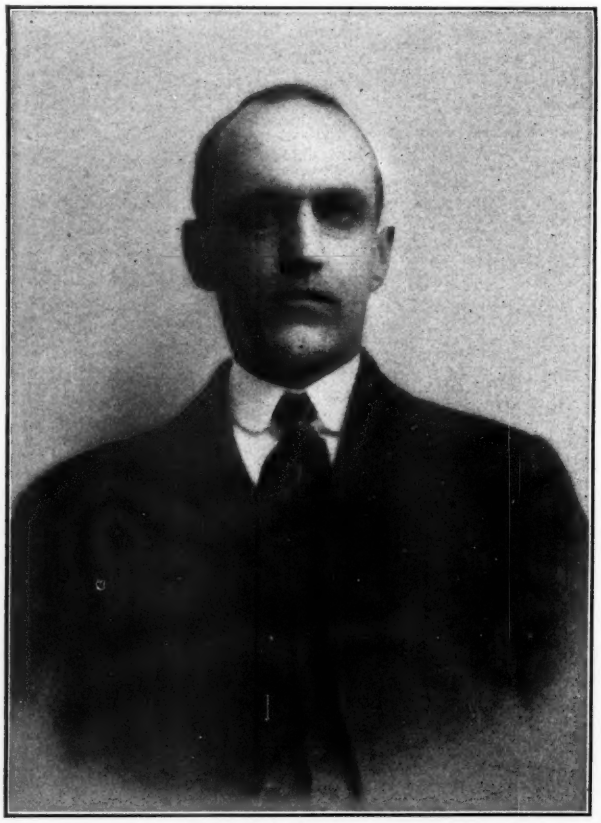
By William F. Bernart, M. D., Hot Springs, Ark.,
Editor Hot Springs Medical Journal.

Improvements in the technic of the treatment of acute and chronic gonorrhea in the male during the last ten years, have without a question produced a decrease in the frequency of stricture as a complication. We have all heard patients remark that they were strictured by the use of injections, and this as a causative agent has been strongly upheld and played upon by some physicians; but even allowing this as an etiological factor in certain cases, we find, however, that by far the greater percentage are the pathological products of the ravages of the gonococcus. It is thru the system of a more careful and accurate diagnosis, a more thoro and scientific treatment, and the non-discharge of a patient until a cure is definitely proven that strictures have become less frequent rather than to the fact that less caustic drugs are used. In our armamentarium of to-day are found many, in fact nearly all, of the drugs used ten years ago. Many of these are used at the present time. Why, therefore, should the frequency of strictures materially decrease? To my mind it is due to our vigilance regarding the presence of the gonococcus and our persistence in establishing convincing evidence of its absence, thus aborting a long continued chronic inflammation with its occasional strictural formation.

The frequency of strictures even in long-standing cases of gonorrhea is over-estimated. In making this statement I do not include that variety which manifests itself as an inflammatory thickening found in accute attacks or during sub-acute exacerbations in a chronic case. This condition as a rule is temporary and subsides under appropriate treatment.

In trying to establish an idea of the frequency of organic or true strictures as a pathological condition concomitant to a continued inflammation, only cases presenting

a chronic urethritis were considered. The shortest period from the time the gonorrheal infection became chronic until the time of a urethral examination for stricture was about six months; in this case an organic stricture of the urethra (21 French) was found 4 cm, from the meatus. All other cases gave a history of one or more acute attacks of acute gonorrhea during a period of six months to twenty years before. In all cases chronic gonorrhea supervened upon some one of the acute attacks. As undoubtedly many patients termed an irritation of their chronic condition an acute attack, it made it impossible to obtain accurate statistics in this respect. Among 242 cases examined, the gonococcus was demonstrable in 190, or 79 per cent. The longest period of infection was in a case where the acute and only attack had occurred seventeen and a half years previous, the gonococcus being found in the urine after pros-



Dr. William F. Bernart, of Hot Springs, Arkansas, is a graduate of the Detroit College of Medicine. For two years (1899-1900) he served as A. A. surgeon in the United States Army, being stationed at the Army and Navy General Hospital at Hot Springs. After leaving the above hospital, he went into private practice. He is editor of the Hot Springs Medical Journal and makes a specialty of genito-urinary diseases and syphilis.—Editor.

tatic massage. The unusual length of time of infection in this case led me to verify my findings by sending a specimen to a pathological laboratory. In this case no stricture existed unless the encroachment upon the prostatic urethra by an enlarged prostate gland could be called such.

Among 242 cases organic strictures were found in 30 (or 12 4-10 per cent); narrowing of the meatus or fossa navicularis was not considered. Among this latter class were three cases of interest, in two the constriction at the meatus and extending into the fossa was due to a chancre at this place and the third had a cicatrical contraction extending at least 3 cm. into the urethra from a chancroid which remained confined to the urethra alone and was cured by cauterization with pure carbolic acid followed by alcohol. This case was treated by me for the first five days for a non-specific urethritis, the result being an infection of the superficial inguinal glands on both sides, necessitating operation. Among the 30 strictured cases, 21 or 70 per cent were confined to the anterior urethra; 6 or 20 per cent to the posterior urethra, and 3 to 10 per cent had constrictions in both portions. In 16 of the 30 cases, gonococci were present. In three cases a markt interference with urination was the principal symptom, all of these only allowing the passage of one filiform at the first examination and that with great difficulty. Two cases required operation, one having a resilient annular stricture of the anterior urethra, and the other was one of the patients with tortuous constrictions of both portions of the urethra. All others cases were treated by gradual dilatation. Unless there is a noticeable interference with urination, but little dependence can be placed upon the so-called symptoms of stricture; therefore instrumentation with an acorn-headed bougie is our only accurate method of diagnosis.

As regards the treatment of strictures, the subject may be considered under two headings; namely, operative and non-operative. In reference to the former the indications only will be considered. Before entering any further into the subject it may be advantageously stated that operations for strictures are performed too frequently and in many cases not enough weight is given the more conservative treatment: gradual dilatation. A urethra permitting the passage of the smallest drop of urine is permeable, and with care, patience, and time, a filiform can usually be introduced.

Certain cases require operation, these may be classified as follows: in impassable strictures; strictures of the meatus and within the first inch and one-half of the urethra, these are ordinarily dense and require incision; strictures of the perineal region which are refractory to divulsion, or complicated with fistula, abscess formation, of urinary extravasation, the latter two requiring an immediate external incision; in many traumatic strictures; and in certain resilient or irritable strictures anterior to the bulbo-membranous junction. All other strictures are as a rule amenable to dilatation. Operative procedures should be advocated in all cases requiring same, in other cases the idea should not prevail that cutting is productive of quicker and better results than dilatation.

Under dilatation, the principal modes are (1) gradual, (2) continuous, and (3) rapid. Gradual dilatation during the beginning formation of strictures is productive of a cure in a comparatively short time, if however, they are of long standing and markt cicatricial contraction and callous formation is present, several years may be required in their cure. As gradual dilatation is the most important method of treatment, it will be considered after discussing the indications for other procedures.

Rapid dilatation is probably called for in some narrow strictures which are on the border of causing retention. It consists in the increase of the urethral calibre from two to five numbers at a sitting, the sittings usually being every other day. It is exceedingly painful and as a rule produces great inconvenience to the patient, the force necessary to pass larger instruments in a short space of time is occasionally influential in producing pockets and false passages. Within the last year I saw two cases that were treated by rapid dilatation the results in whom would have been better under

a more gradual treatment. Violent divulsion only needs the condemnation that it is crude, uncertain and dangerous. The field for continuous dilatation is found in those cases of small stricture in which retention is liable to occur and where great difficulty was encountered in the passage of an instrument. The term implies the retention of an instrument, whether filiform, sound, or catheter, from a few hours to three days. This maximum time need seldom be exceeded as the desired results are by then usually accomplisht, besides great irritation might result from its continuation. In a very narrow stricture permeable only to a filiform, if this instrument be retained, it will be found that an effort made in eight to twelve hours will result in the successful passage of another one, and so until three to six filiforms are made to traverse the entire length of the canal. It has been my practice during continuous dilatation to irrigate the urethra under low pressure with a boric acid solution; to successfully accomplish this where several filiforms are introduced, the removal of all but one is often necessary. Under the precaution of this irrigation, markt irritation is avoided, therefore allowing the continuous dilatation to be carried on for some time. As this method of dilatation is only the initial step to other operative measures, either external or internal urethrotomy or gradual dilatation, every effort must be made to improve the general condition of the patient as rapidly as possible, for if an operation is to be performed the more favorable the auspices the better the results.

While this dilatation is being performed the use of hot sitz-baths are often pleasing and soothing in their effect and seem to materially assist in the treatment. This is given at a temperature from 100 degrees F., to as hot as can be comfortably borne, and continued from five to thirty minutes. Of value is the use per rectum of a suppository containing either sedatives or alteratives or both. Hot perineal and suprabubic compresses of a mild mercuric chloride solution seem to help in increasing the patulency of the urethra, the action of this, also of the sitz-baths depends entirely upon the stimulation of the circulation. Constipation and especially an impacted sigmoid flexure and rectum as is frequently found in case of obstipation, interfere with the treatment. The pyrexia accompanying the retention of putrid urine in tight constrictions can usually be combated by catharsis, diaphoresis, application of cold, and the administration of a febrifuge which does not materially weaken the heart's action, for within a few hours after the retention of even the smallest instrument the leakage of urine becomes sufficiently rapid to drain the bladder.

Gradual dilatation is the treatment par excellence in all strictures not included in the above mentioned indications. The instruments required consist in a set of whalebone filiform bougies, these must be smooth and perfect in every respect; Gouley's tunneled sounds or catheters from 5 to 15 French; steel sounds from 10 to 36 posterior dilators. For strictures with a calibre of 22 French or above, the latter are of great convenience as they allow of easy introduction when closed, after which dilatation can be carried to any desirable point. Other instruments such as the urethroscope, etc., cannot be considered absolutely necessary for use in gradual dilatation, altho for example, they permit or direct treatment to the parts and thus assist the absorption and reconstruction. Asepsis and antisepsis must be rigidly observed thruout all stages of the proceedure or otherwise the likelihood of urethral fever and septic infection is increast. The indications for the size instruments to be introduced, the frequency of introduction, and the time retained, are matters individual to the case. In reference to the size, it is desirable to use an instrument 1 to 3 sizes greater than the lumen of the stricture, this exerting about the proper pressure. In some cases it will be impossible to do this until a softening of the cicatrical tissue has taken place. The frequency of the sittings depends upon the time during which the transitory hyperemia lasts. This is usually three to four days, and sometimes longer. During this period the softening of the stricture and the absorption takes place. Instrumentation is not to take place again until the effects of the previous one subsides. The length of time of retention depends upon the severity of the phenomena following the passage of an instrument, 1 to 30 minutes usually bound the time limits; each case establishes its own ruling in this respect. The causation of pain in a patient treated by gradual dilatation is uncalled for and injurious. The thought of the last treatment and the expectation of again being hurt is not productive of complete muscular relaxation in our patients.

In closing I wish to emphasize the importance of keeping an accurate case-chart:—The details of the treatment of a case, extending over months, with the visits from a few days to weeks apart, cannot be carried in our minds; a matter much to be regretted is the practice of some physicians requesting their patients to remember the date of the last seance and the size of the instrument passt. Many cases are submitted to surgical procedures, not because proper but that the treatment was carried on in an unscientific and careless manner.

ACUTE THYROIDISM FOLLOWING CURETTAGE.*

By Brooks H. Wells, M. D., New York City,
Professor of Gynecology in the New York Polyclinic.

Since the time when the Roman matron measured with a silken ribbon the throat of the bride before and the day after marriage, to determine by its rounded increase that she had been a pure virgin, the sympathetic relation of the thyroid gland to the pelvic organs has been vaguely known; but hardly more than a decade has passt since we began to appreciate the various facts that will in time lead to an accurate knowledge of the functions and physiology of this and the other ductless glands.

Under certain conditions there occurs in those individuals who have been the subjects of a thyroid tachycardia a virulent, acute toxemia characterized by a well-markt group of symptoms. This toxemia may follow operations upon the thyroid itself, operations upon the pelvic organs, or more rarely, operations upon the breast or other parts of the body, or any markt nervous strain.

The exact mechanism by which the function of the gland is disturbed or excited is not definitely known. The disturbances after operations on the thyroid itself have been attributed to an outpouring of toxic material into the blood, either as the result of the manipulation to which the gland is subjected or from a leakage and absorption from its cut surfaces. These causative factors can be ruled out when the thyroidism follows operations on other parts of the body. In those cases similar to the one recorded below it seems certain that the condition is the result of a reflex disturbance of the central nervous centers and the sympathetic centers that control the activity of the thyroid gland or, as has recently been suggested, of the parathyroids. The condition is often rapidly fatal, death occurring within the first three or four days from cardiac exhaustion. When recovery ensues the symptoms rapidly or gradually disap-

*Read before the Clinical Society of the New York Polyclinic, January 4, 1904.

pear until the individual reaches the status present before the attack.

The following case of acute thyroid poisoning following curettage seemed to possess features of interest which make it worthy of record.

Mrs. X., aged 53 years, had passt the menopause at the usual time, but during the last six months had had repeated, small bleedings from the uterus, which was not enlarged, and was freely movable. She was nervous, thin and poorlv nourisht. For many years she had had a slight enlargement of the right lobe of the thyroid, an excitable, rapid pulse and a slight tremor, but no protrusion of the eye-balls. Auscultation of the chest revealed a few bronchial rales. No other pathological condition was discovered. To exclude the possibility of beginning cancer of the fundus uteri as a cause for the post-climacteric bleeding a curettage of the uterus was performed under strict asepsis on November 5th, at 10 a. m. The scrapings from the endometrium were examined by Dr. Jeffries, pathologist at the Polyclinic, who reported that they showed only a moderate grade of endometritis. There were no further symptoms, local or general, that could be referred directly to the curettage.

The anesthetic was given by Dr. Bennett and was gas followed by ether. After a few breaths of ether her heart became so rapid that Dr. Bennett considered it wise to change to chloroform, under which the heart beats became slower. From the beginning of the anesthesia to the return to consciousness a little less than half an hour elapst.

Six hours later the patient was flusht, tremulous, nervous, voluble, but not worried and with mind clear. Her pulse had risen to 130 and became more rapid on any little excitement. Temperature was 100.5 degrees, F. Twenty-four hours after the operation the flush, tremor, nervousness and volubility were increast; the pulse had risen to 178 and at times was uncountable; her temperature was 99.5 degrees F., there was profuse sweating, a watery diarrhea, markt irritability of the bladder with polyuria, many soft rales all over the chest, and vomiting. The thyroid was perceptibly enlarged, especially on the right side, and presented a quite apparent thrill. There was markt throbbing of the heart and large arteries. Examination of the urine showed a sour odor, reaction neutral, sp. gr. 1012, no albumin, no casts, innumerable colon bacilli, and a few pus cells. These symptoms of an extreme toxemia continued to the end of the first week, when her temperature reacht 101.6 degrees F., and the auscultatory symptoms of bronchitis became more markt, tho there was little cough and little expectoration. Blood-examination at this time showed no leucocytosis and no typhoid reaction.

From the fifteenth to the tweny-fourth day the patient's condition was such that death was expected to occur at any time. The toxic symptoms continued, the tongue became dry and brown, there was extreme weakness and the usual relation between temperature and pulse was reverst so that the most rapid and weak heart-action was when the temperature was lowest. The diarrhea ceast to be troublesome on the twenty-first day and on the twenty-fourth the patient was able to take small amounts of solid food by mouth. From this time on improvement was steady, but slow, until she reacht a condition approximating that before the operation.

Treatment.—At the beginning it was thought that some of the symptoms might be dependent upon an intestinal toxemia, and the patient was given calomel followed by a saline and repeated high colonic flushings. The bladder for several days was washt out with a boric acid solution at eight-hour intervals, the washing being followed by the injection and retention of two ounces of a 10 per cent argyrol solution. The diarrhea was finally controlled by tannigen by mouth, ten grains every three to six hours as needed, and starch and deodorized tincture of opium, ten minims, by rectum, every six or eight hours. The insomnia was relieved by the opium or by trional at night, in doses of from twenty grains at first to five grain at a later period. As it became impossible to make the patient retain food given by mouth, rectal alimentation was employed more or less from the eleventh to the twenty-second day. Solid food in small amounts was given on the twenty-fourth day. The heart action and general condition were not benefitted by any drug; colonic flushing, strychnine, digitalis, belladonna, suprarenalin, alcohol, all seemed to do more harm than good.

A CURE OF AN EPITHELIOMA BY THE X-RAY.

By W. L. Brosius, M. D., Gallatin, Mo.,
Surgeon to the Wabash Railway.

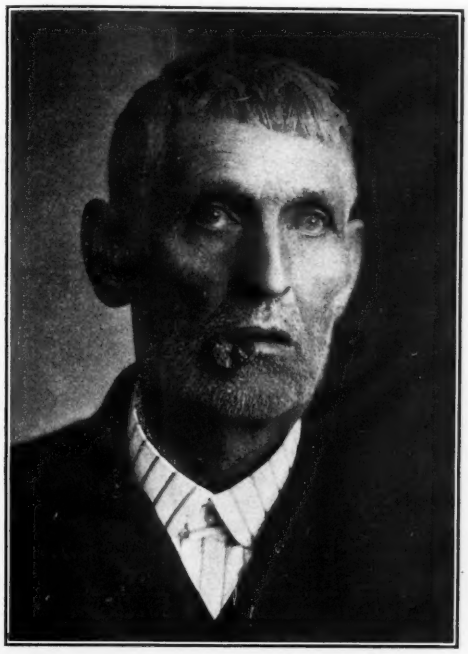
Every case now added to the list of cures of cancer by radio-therapy helps to impress upon the minds of both doctors and the laity the fact that cancer can be cured; and

Dr. Wm. L. Brosius, of Gallatin, is one of the most successful practitioners of the State of Missouri; a graduate of the Missouri Medical College (Washington University) and of the New York Post-graduate Medical School. He is an enthusiastic "X-rayist," having one of the best "outfits" in the West, with which he is getting as admirable results as the best of metropolitan operators. He is a member of nearly a dozen medical societies (county, district, state and special); and about 45 years of age.—Editor.

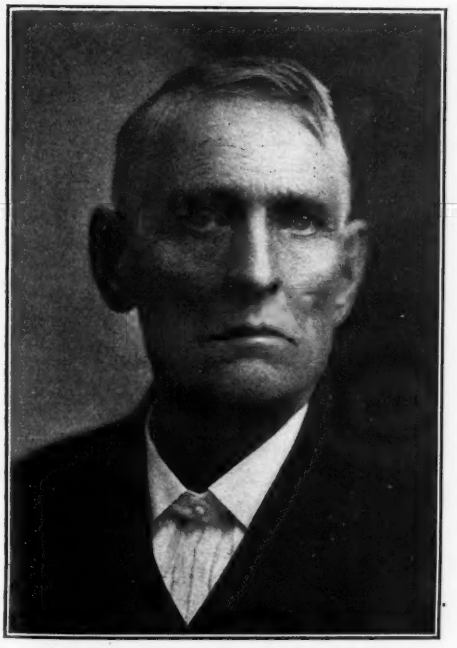
may be pointed out to hesitating patients as illustrative of the additional fact that sometimes resort to the knife is

not necessary—in superficial growths at least. Hence this report.

This patient was seventy-five years of age and of excellent health. For a long time there had been a "lump" on the lower lip. Five months before he consulted me this



began to ulcerate and give him much pain. At the time of examination there was present the characteristic features of typical epithelioma of the lip. This is well shown in the above photograph.



He was seen by Dr. Emory Lanphear, of St. Louis, who agreed with the diagnosis and declared the case so far advanced as to promise very little hope from treatment by extirpation with the knife or cautery. He added: "If you succeed in curing this trouble by X-radiance it will be a decided testimonial as to the efficacy of the X-ray in the treatment of surface epitheliomata."

Treatment was begun May 21, 1903. He was free from pain after the third exposure, tho his suffering had been intense for quite awhile before; and sleep became natural after this altho for some days prior to beginning the ray treatment he had to take morphine to induce sleep.

In all he had 27 exposures: The first on May 21, 1903, the last on July 20, 1903. A photograph (Fig. 2) shows how the lip appears January 16, 1904. Nothing was applied to the lip during the ray treatment, nor was he given any medicine of any kind.

It seems to me the pictures speak louder than words in behalf of the use of the X-ray in such cases. But I will add that I have had equally satisfactory results from 15 to 20 exposures (during 35 to 45 days) in a number of other cases, not quite so bad. All remain well thus far—they "are symptomatically cured," whatever the ultimate result may be.

RADIUM.

By Heber Robarts, M. D., M. E., St. Louis, Mo.,
Founder and formerly Editor American X-Ray Journal, First President Roentgen Ray Society of America, Member Roentgen Ray Society of London, Late Surgeon to the Northern Pacific Railway, Etc.

I am only expressing the opinion of those who knew something of the subject at the time, when voicing the opinion as herein expresst by Dr. J. Hall-Edwards, editor of the *Archives of the Roentgen Ray,* publisht in the issue of December, 1903:

"The public demand for knowledge of this wonderful substance (radium) is being satisfied by the wholesale dealing out of absurd theories and mis-stated facts. The greatest possible nonsense is being talkt on all hands. From the point of view of the medical man, we have failed to secure any data of value and we wait with interest the reports of our specialists, who are at present keeping very quiet."

Four months have elapst since these lines were penned, and the reports of "our specialists" have given reliable data. All persons interested in physics and physicians interested in the practical uses of medicinal agents cannot help but feel that all matter which has been thus far printed upon the subject of radium has so befogged the understanding that no clear definitions upon this all-absorbing subject are to be had. In order that this cloud may be cleared away, I have taken it upon myself to make a personal investigation of points relating to radium: as to its source, its physics and its uses and to attain this end I went abroad and visited those persons in England and on the Continent of Europe who are best acquainted with the subject.

SOURCES OF RADIUM.

During the past twelve months ore containing radio-activity (that is to say ores that are capable of producing a shadow of metal substances upon a photographic plate) have been found in various sections of the mining regions of the world. Such specimens have been analyzed and many of them have been sent to Paris for the purpose of determining the prime cause of the radio-activity. All ores which contain uranium and all which contain thorium, actinium or polonium are inherently radio-active, due to the presence of these elements themselves. Thorium ores found in the Carolinas have a more durable radio-activity than any of the others mentioned. These radio-active substances are found

without any special tendency to a fixt location—as precious ores are found—that is to say confined to distinct ledges bound in by well defined walls as is seen in the quartz gold, silver and copper mines. With radium this is wholly different, the uranium ore which is really a pitch-blende, is a metallic ore of a black lustrous cast and is found in very small quantities, bound distinctly with walls and its source thus far has been found nowhere in the world except in Bohemia near Vienna, Austria.

The mine from which this ore is taken is the Johannes Thal mine. This mine was workt and was fabulously rich during the Roman Empire and it is from this mine that we derive the word "Thaler," the dollar. It is from this mine also that the recently discovered ore germanium has been obtained. Also in this mine was it that the ore argyrodite was found, found there, lost, and never again found elsewhere. This special vein in this mine was opened to procure uranium which is largely used in the arts and especially for giving luster to pottery ware. Uranium is found widely diffused thruout the globe.

If pitch-blende containing radium is to be found anywhere else, its most probable source will be in, or near, some silver mine which has been opened for many years. This mine will contain a rich body of silver ore, from which the constant staining of its walls and surroundings, thru ages, has had something to do in the growth of the new product. In such a mine a distinct ledge of radium or pitch-blende may be found, and that mine might be discovered in the fabulously rich silver ledges of old Mexico.

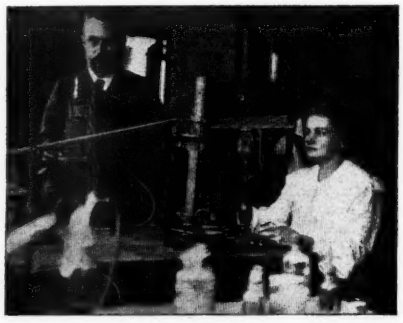
MISTAKES AS TO SOURCE.

There is an old, abandoned mine in Cornwall, England, from which zinc was for many years procured, where also silver was obtained, and which contains radio-active material. The water in this mine is radio-active, and much has been said about pitch-blende being there found. In the hope of obtaining pitch-blende this mine is being freed of water, and owing to the fact that it is known that radium will contribute radio-activity to water, there is strong reason to believe that the expectation may be well-founded. Inasmuch, however, as radio-activity can be delivered up to water by other substances than radium, and this is not a silver mine, it may be that the radio-activity known to exist in this water may be derived from other source than radium. Ores which have been found in other regions of the world, especially those mentioned from California, Utah, Idaho and Colorado, have been shown by direct analysis to contain no radium whatever. These facts were personally told me by M. Curie in his laboratory and study on January 21st and 22nd, 1904.

I have some beautiful specimens of radio-active ores sent to me by Mr. O. J. Adams, of Telluride, Colo. One is a sample of carnotite stained yellow with uranium oxide and another specimen, roscoelite stained greenish with vanadium oxide. I have shadowgraphs made from these ores. Mr. F. T. Bird, of Las Vegas, N. M., has kindly sent me specimens of what is said to be pitch-blende. No proof of radium having been obtained from these ores has been confirmed.

"PURE RADIUM."

The phrase "pure radium" is a misnomer. There is no such thing as radium in the sense in which ordinary English conveys to the mind the meaning of the expression. The phrase "pure radium" is applied to the compounds of radium-bromide and chloride. Radium itself does not exist so far as known to human intelligence; so far as being a tangible substance it seems to be a myth, being only recognized by its spectrum. When the compounds containing radium bromide or chloride have been reduced to a radio-activity approaching 1,800,000, using uranium as a unit, we have arrived at the highest possible state of radio-activity. Any effort made to exceed that radio-activity is made at the expense of the entire mass, which is fused and instantly disappears. No one has ever seen radium, neither have they been able to use it, control it or do anything with it in an appreciative sense. Some approach to the understanding of what may be meant by this can be made by a consideration of the gas: sulphur dioxide; with that gas, if it be heated to a temperature of 2,200, it is dissociated—heat dissipates the two elements or drives them asunder—oxygen is an invisible and quite imponderable gas, therefore not appreciated while metallic sulphur is heavy and appreciated—the source of the oxygen is unknown save thru certain phenomena which can be determined by physical processes. Much of the same is noticed when carbon dioxide is dissociated. Then we get carbon and the free oxygen. The composition of water is oxygen and hydrogen, (H_2O). When these two elements are separated both pass into space, apparently indifferent to each other, yet when they are united we have ordinary water. These cases are not wholly parallel for the reason that radium itslf is only determined by one mode, spectrum analysis. The discovery was led up to by Mme. Curie, but the spectrum was first made out by Demarcay at her request. The lines of the spectrum were characteristic and it was she who named the element radium. The substance, or element,



PROFESSOR AND MADAME CURIE IN THEIR LABORATORY.

is a gas, more rare and refined than helium or argon; there is yet some doubt as to its actual existence, but while its spectrum approximates to that of helium and argon, we have an appreciable difference. It behaves like an element of the calcium-strontium-barium series. Radium in an excited Crookes' tube has shown the helium beam. This is confirmed by Ramsey and Soddy working together in University College, London.

RADIO-ACTIVITY AND ITS MEANING.

It is probable that all such substances have the property of being either radio-active inherently, or capable of receiving and retaining for a time radio-activity. Certain character of metals receive it and retain it longer than fluid substances. Water, however, is a very good source, retaining the radio-active properties imparted to it for two or three weeks. Living tissues also assume and take on radio-activity with great facility and retain it for a long period.

The cause of emanations of radio-active matter from bodies that have received it, differs widely from that which is radio-active inherently. It is presumed that radium is constantly throwing off emanations of different types and is entirely due to a cataclysm of its atomic structure from which there is an ejection of electrons, expulsion of helium and

radiations closely corresponding to the Roentgen rays. With matter that is not inherently radio-active, the emanations are not due to the breaking up of the atomic structure of the matter that has received the radio-activity. The latter substances gradually lose the power of giving off emanations, finally reaching the point where all radio-activity is lost, whereas with radium we have, thus far, no means of determining that any loss whatever takes place. To compensate for the material structures which are thrown off from radium, it is assumed (without definite proof) that particles of matter passing across the field of the atomic structure are absorbed and thereby radium maintains its radio-activity without loss of weight. Thorium seems to have much of the same permanent quality, but actinium, uranium and polonium all rapidly lose their radio-active properties. The life of polonium is about two years, of radium, so far as man is concerned, it is eternal.

The phosphorescent substance uranium was made a study by Henri Becquerel in 1896 some years after Sir George Stokes had taught the phenomena of fluorescence and very soon after Prof. Roentgen had announced the discovery bearing his name. Becquerel was trying to affect a photographic plate with uranium. It had been exposed to light, which was essential for fluorescence. The plate was developt in black paper and days given for the exposure and when developt, it was found to be affected. It was later found that when uranium was not exposed to light, it would also affect a photographic plate and necessarily did give off rays of invisible light. He effected thereby the discovery of radio-activity. Becquerel also forced the electroscope to be discharged when in nearness to uranium. All the compounds of uranium and thorium possess the same property. Phosphorescent and fluorescent matter do not have such property. Radio-activity is inherent and is spontaneous. In the former case it is a primal factor and is always spontaneous. In substances acquiring radio-activity, contributed by an inherent one, the emanations are spontaneous. The following is a formulated law by the Curies.

CURIES' LAW.

"(1) All substances may be rendered radio-active thru the influence of radium emanations.

"(2) Substances thus influenced retain their induced radio-activity very much longer when guarded in a small enclosure thru which the emanations cannot pass (say a sealed glass tube) than when not so guarded. In the former case their radio-activity diminishes one-half every four days. In the latter case it diminishes one-half every twenty-eight minutes."

FLUORESCENCE AND ITS MEANING.

The phenomenon of fluorescence was first studied by Sir George Stokes. He gave the name fluorescence to the phenomenon which certain substances possess in altering the short waves of ultra violet light to longer wave lengths so they become visible to the eyes. Fluorescence differs from phosphorescence in that the former emits light only so long as the substance is stimulated by the incident beam. In the case of phosphorescence the emissions of light continue after the original source has been removed.

Many liquid substances fluoresce, such as petroleum, quinine in solution, aesculine, rhodamin, eosine, uranium, etc. Tonsgate of calcium, plantino-barium-cyanide, sulphate of zinc, willemite and many other compounds also fluoresce.

Light seen emanating from radium in the dark is not a function of radium. That which is seen is phosphorescence and not radium emissions. We can only see radium emanations upon a screen when its invisible short wave length is changed by the crystals of the screen to long wave length.

A great many substances become phosphorescent when exposed to light, such for instance as phosphate of zinc and many of the minerals, decaying vegetables, decaying fish and some species of southern beetles.

The diamond fluoresces when radium rays impinge upon its surface. This determines diamond from stone or glass or the manufactured diamond which do not so fluoresce. To make this experiment most telling the diamond should be on a black background and the radium wrapt in a black cloth.

RADIUM AND ITS MEANING.

Much has been said in lectures and in writing of the intense brilliancy of radium, its glow-worm effect and the effect in lighting rooms, its brilliancy, etc. Radium bromide performs its constant duty under every possible condition by means of invisible emisions. We see the effect upon the screen in the same manner as fluorescence is seen by the invisible x-rays.

Radium in appearance is a light brown powder which slightly darkens in hue as the radio-activity increases thru higher refinement. In the dark it is seen giving off some phosphorescent lines, less luminous, however, than phosphorescent compounds. Its rays penetrate metallic substances instantly and cast a shadow thru them upon a screen. I have a decigram of radium in my possession which will cast its rays thru four penny-pieces and light upon a screen of platino-barium-cyanide. Its rays are not projected to any great distance. Rays from a Crookes' tubes that will shadow a hand 100 feet distant will not penetrate one of these pennies one inch from the tube. The alpha ray has no penetrating quality but is highly actinic. When radium is put in an open cylinder of heavy lead the emanations from the opening can be reflected upon a sensitized plate and a picture produced.

The nature of the alpha rays was investigated by Rutherford, late of New Zealand, then a student at Cambridge, and now of Montreal. About one per cent of radium atoms consist of alpha rays and are projected with the velocity of one hundred thousand miles a second. These are the projectiles which make the luminous ashes on a target in Crookes' spinthariscope. It is the bombardment of the alpha rays, the atomic particles thrown away of which the heat production from radium is due.

The beta ray is very penetrating and will pass thru dense pieces of lead and other materials. The rays emanating from this opening in the lead cylinder may be drawn away by a magnet to any desired direction. These rays are actinic. These rays possibly consist of flying or escaped electrons.

Gamma rays are the most actinic of the three but cannot be influenced by the magnet. They go out to infinity similarly to the Roentgen rays. They are also actinic. These rays possibly consist of ejections of helium. Radium emanations negatively charge the gold leaf electroscope.

Electrons being the smallest known division of matter are simple particles of electricity, and compose the atomic mass of matter. Atoms are very small for three hundred millions of them can lie in a row side by side in an inch of space and a trillion of them in each granule of lycopodium dust. Such a granule is invisible to the eyes and to the microscope. Electrons are smaller, they are a thousand million million times smaller than an atom.

The three emanations together, the alpha, beta and

gamma rays, constitute the radiations from the atoms of radium compounds.

These are the computations of Sir Oliver Lodge of Birmingham, England. To my liking Lodge is the greatest intellectual giant of England. Recently when a ten year old child saw Lodge for the first time she spoke of him as "the great big lion with a white satin heart." He is big physically as well as mentally; he is genial, kind and pleasant. He is now delivering a course of six lectures on radium to physicians and men of science. They will be concluded in March. In one of these lectures he says in part:

"The spontaneous breaking up of an atom constitutes a novel source of energy, larger than any previously known. The amount of energy of any weighable collection of atoms is enormous, if it could be got at; but in practice only a very few atoms are unstable from instant to instant. Most behave as if they were permanent; but they are probably none of them really and enternally permanent.

"The discovery of this new or intra-atomic energy affects our estimate of the possible life of the sun, and to some extent of the probable age of the earth. But the most important consequence is the discovery of the mutability of matter, the transmutation of the elements and the liability of material atoms to break or explode.

"In old days Heraclitus promulgated the doctrine that the universe was not a 'being' but a 'becoming'; that nothing is stationary or fixt, or permanent. It is absolutely true. In human life the fact is easily recognized. All our efforts are towards the future; our instinct will not allow us to rest on our oars and enjoy the present. Vegetation and degeneration await any man, or any nation, that ceases to energise; we are working always for a future, for the next improvement or advance that we see to be possible, for a state of things not yet realized but attainable; and when it is attained, we shall be working for something still further ahead; and so always. Activity is the rule thru the whole world of life, thru the solar system and the stellar universe also.

"Birth, culmination, and decay is the rule, whether it be for a plant or an animal, or for a nation or a planet or a sun.

"The atoms are crumbling and decaying. Must they also be forming and coming to the birth? This last we do not know as yet. It is the next thing to be lookt for. Decay only, without birth and culmination, cannot be the last word. This discovery may not come in our time, but science is rapidly growing and it may. Science is still in its early infancy. We are beginning to comprehend a few of the secrets of nature; we are yearly coming nearer to some sort of comprehension of the mind and method infused into the material cosmos.

"We now know things which have been hidden from the wise and prudent of all time. Surely somewhere there must be joy at seeing Man thus entering into his heritage and realizing these primal truths concerning his material environment, whereof he has been living in ignorance all these thousands of years."

Madame Sklodowiska Curie wrote a thesis for her doctorate on the subject of radio-activity in 1892. She was a senior student at the time in the municipal school of physics and technical chemistry in Paris. She found that the residue of pitch-blende, an oxide of uranium, after extracting the uranium was four and one-half times as active as uranium.

"These residues were fused with carbonate of soda, treated with acid, precipitated with sulphuretted hydrogen, and so on, the guiding principle being that while the chloride of the substances was soluble, the sulphate was insoluble, until at length 16 pounds of material was obtained out of a ton of the residues by semi-manufacturing or large-scale processes, these 16 pounds being sixty times as strong as uranium and consisting chiefly of barium chloride. When this barium chloride was dissolved and crystalized, the part which crystalized first was found to be five times as radio-active as the remainder. Hence, by repeating the process of solution and crystalization a great number of times, and getting a result five times stronger each time, a substance was ultimately obtained, tho in very small quantities, which was a million times more active than uranium." At the first only a tenth of a grain was obtained by Madam Curie from two tons of residue, but with this she proceeded to determine the atomic weight of the new element and gradually came to the conclusion that it was 225, on a scale hydrogen—1.

The Austrian government, advised by Professor Suess, assisted Madame Curie by placing some tons of the residue at her disposal; for poverty was a considerable barrier in the early stages of this research.

Professor Curie now joined his wife in the investigation, and by them and others many curious details concerning the behavior of the several radio-active substances were detected, e. g., their activity was not constant; it gradually grew in strength, but the grown portion of the activity could be blown away, and the blown-away part retained the activity only for a time. It decayed in a few days or weeks, whereas the radium rose in strength again at the same rate as the other decayed; and so on constantly. It was as if a new form of matter was constantly being produced, and as if the radio-activity was the concomitant of the change of form. Last year, also, Professor Curie found that radium kept on producing *de novo*, so as to keep itself always a fraction of a degree above the surrounding temperature; also that it spontaneously produced electricity.

(To be concluded in April.)

Treatment of Acetabular Disease.

At the late meeting of the American Medical Association, Dr. E. H. Bradford, of Boston, said that when "hip disease" is chiefly located in bones forming the acetabulum with comparatively slight invasion of the head, the treatment manifestly offers special difficulties. The sinuses often discharge inside the pelvis, and complete drainage can not be provided. Amputation of the hip joint furnishes perfect drainage, but is manifestly inapplicable to any but the most desperate cases. The ordinary treatment by excision of the head of the femur does not give satisfactory drainage, as, owing to the subsequent muscular contraction, the remaining portion of the femur, by plugging the acetabulum, interferes with drainage and acts as a cause of irritation, friction preventing the natural healing process. Excision of the acetabulum has been attempted, but the operation is a severe one and very dangerous procedure. It is evidently necessary to promote drainage and to allow healing by the prevention of the irritation caused by the friction of the diseased bony surfaces. In the natural cure of hip-disease, this is accomplisht because a dislocation takes place, relieving the pressure of the inflamed bony surfaces presst together by the spasm of irritated muscles, and pathological specimens have shown many instances of healed acetabula after subluxation of the head. The indications for drainage and prevention of friction of the inflamed surfaces he thinks are clear and can be met, in cases of acetabular disease, by cutting down upon the joint, dislocating the joint upward, and inserting into the acetabulum a large, incollapsible drainage tube of glass, or preferably of celluloid, thru which applications to the acetabulum, such as hydrogen peroxide, carbolic acid and alcohol, can be made. The dislocated limb can be temporarily secured in a plaster-of-Paris bandage, and later left free, and the patient allowed to walk about on crutches. Correction by subtrochanteric osteotomy may be performed after the acetabulum has become healed with success, as he has demonstrated, in three cases.

Journal of American Surgery and Gynecology

—EDITED BY—

EMORY LANPHEAR, M.D., Ph.D., LL.D.

Chief Surgeon of the Woman's Hospital Association of the State of Missouri St. Louis.

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The spelling found in this magazine is that voucht for by the most prominent educators of this country, and is recommended for general adoption.

ST. LOUIS, MARCH, 1904.

MINOR NOTES.

Printers' Mistakes.—It is queer what liberties some publishers will take with the manuscript of authors. Now, for example, there is a poet out in San Francisco whom the gods permitted to use the name of George Stirling, but whose devil is in the office of the Whittaker & Ray Publishing Co., just this side of the setting sun. The poet of the Golden Gate is made to say:

"I loose the choral trumpet's gleam,
But half its thunder leave untried;
Midway on doubting vans I glide,
Nor hasten to the heights of dream."

Now what sense is there in that? What Stirling no doubt wrote was:

I lose the chloral hydrate's gleam,
For half its dose I leave untried;
Midway on doubting vans I glide,
Nor hasten to the heights of dream.

That makes sense! George should kill his printer's devil.

Dr. Crowell's Address.—Dr. H. C. Crowell, Professor of Gynecology in University Medical College of Kansas City, made an address before the Vermont State Medical Society at its last meeting, choosing as his subject: "Some of the Cardinal Points in the Diagnosis of Abdominal Tumors." It appears in Annals of Gynecology for February.

Dr. Engelmann Dead.—Dr. George J. Engelmann, of Boston, one of the foremost gynecologists of the world, is dead. He formerly resided in St. Louis and was Professor of Gynecology in the Missouri Medical College for many years.

A Southern Gynecologist Dead.—Dr. Virgil O. Hardon, Professor of Obstetrics and Diseases of Women and Children in the Atlanta College of Physicians and Surgeons, died at his home in Atlanta, Ga., from pneumonia complicated by organic heart disease, February 7, after an illness of ten days, aged 54 years. The active and honorary pallbearers were members of the faculty of the college, and the Atlanta Academy of Medicine furnisht an honorary escort of its members.

Professor Andrews Dead.—In the passing of Dr. Edmund Andrews Chicago loses one of her most distinguisht surgeons and citizens. For many years he was Professor of Surgery in the Northwestern University—the old Chicago Medical College, an associate of Dr. N. S. Davis.

President Westmoreland.—Dr. W. F. Westmoreland, one of the foremost surgeons of the South, has been appointed president of the Georgia State Board of Health.

Professor Wainright.—Dr. Charles F. Wainright has permanently located in New York. For many years he has been a conspicuous figure in Missouri, having attained great distinction as Professor of Physical Diagnosis in the University Medical College of Kansas City. He now occupies the chair of Internal Medicine in the New York Post-Graduate Medical School, and is proving one of its most popular teachers.

Consolidated.—At last it begins to look as if the Medical Society of the State of New York and the New York State Medical Associations—so long divided on the old code of ethics—will be merged into one body under the name of the first, and older, body. 'Tis time.

In the Field Again.—It is reported that Prof. Nicholas Senn, of Chicago, is to be one of the conspicuous figures in the surgical work of the Russo-Japanese war.

Valentine Angry.—Dr. Ferd. C. Valentine, of New York, has made a great reputation as a specialist in genito-urinary surgery. He is, therefore, very wroth that a firm in New York is using his name to push a secret "remedy" for gonorrhea, and has appealed to the courts to protect him from the injustice. It is to be hoped he will be successful in restraining the parties from further unauthorized use of his name.

Dr. West Dead.—Dr. Hamilton A. West, of Galveston, died recently in New York City. For many years he has been the secretary of the Texas State Medical Society, and a prominent member of the American Medical Association. He will be sadly misst in the Southwest, where he was such a well-known practitioner.

Dr. Goelet Resigned.—Dr. A. H. Goelet, of New York, one of the best-known gynecologists of America, has resigned his chair of Gynecological Therapeutics in the International Correspondence School of Scranton.

Dr. Jackson's Address.—A notable address was recently made before the St. Louis Medical Society by Dr. J. N. Jackson, Professor of Surgery in the University Medical College of Kansas City. His subject was: "Treatment of Abdominal Sepsis by Continuous Irrigation with Hot Normal Salt Solution." He reported two remarkably severe cases successfully treated by this method.

A Medical Editor "Stuck."—Dr. M. P. Morrill, of St. Louis, has obtained a judgment for $12,666 in his suit for $16,000 for forty days' services rendered the late son of Dr. J. J. Lawrence, editor of the "Medical Brief." Dr. Morrill went to New York to attend Dr. Lawrence's son and rendered a bill for $16,000. While Dr. Morrill is to be congratulated on getting such a big fee, it is to be deplored that it has to be paid by a doctor, multimillionaire tho he may be.

LITERARY NOTES.

Another Death.

The Wichita Medical Journal has gone to join the silent majority. Drs. Purves and Graves struggled hard to make a journal worthy of support. They succeeded; the journal did not. Probably the chief reason was because of the existence of a medical journal publisht by the State Medical Society—journals supported by the treasury of a great society being far easier to manage than those dependent upon their subscriptions, especially in these days of free sample copies and freer "reprints" from the great manufacturing houses. It has been merged with the Journal of the Kansas Medical Society.

A Decent Magazine.

True to its promise, Everybody's Magazine has rigidly excluded advertisements of all patent nostrums from its pages; and also refuses all whiskey, wine and other similar advertisements. There are 80,000 doctors who ought to subscribe for Everybody's—not only as an appreciation of its decency, but because it is well worth the dollar.

The Western Medical Journal Gone.

Western Medical Journal, of Fort Scott, Kansas, for many years the official journal of the Southeast Kansas Medical Society, recently owned and edited by the capable and energetic Dr. A. J. Roberts, has been merged with the Journal of the Kansas State Medical Society.

The International No More.

The International Journal of Medicine, so excellent under the editorship of Dr. Boardman Read, has been merged with the

Archives of Pediatrics, of New York City—also one of the best periodicals in the English language.

Maryland Medical Journal.

The calamitous fire which swept the business section of Baltimore on Sunday and Monday, February 7 and 8, destroyed the February number of the Maryland Medical Journal—the Tuberculosis Exposition number—containing the valuable papers of Knopf, Flick, Adami, Ravenel, Thayer, Hoffman, Salmon, etc.; but thru facilities afforded the publishers in Philadelphia, the forms were reproduced from proofs on file outside the fire zone, and the February Journal was in the mails within a few days after the catastrophe. This commendable promptitude speaks volumes in favor of its enterprising and plucky editors and proprietors.

The Fortnightly.

Medical Fortnightly of this city begins its new volume by changing to double column and donning a white dress. It is greatly improved in appearance. If now it would only adopt the plan of occasionally saying something good of the really progressive men of St. Louis instead of ignoring them, it would become a most excellent publication.

Southern Medicine.

Dr. W. E. Fitch, of Savannah, Ga., who for some years conducted the Georgia Journal of Medicine and Surgery, has revived that sometime dead periodical under the name "Southern Medicine." The initial number of the new series is most excellent.

Southern Medicine and Surgery.

In view of Dr. Fitch's selection of the title "Southern Medicine" for his revived Savannah journal, it is unfortunate that the new venture at Chattanooga should be known as "Southern Medicine and Surgery." (Is that a compliment to the old "American Surgery and Gynecology?" It sounds like it, doesn't it?) The new magazine is edited by Drs. Raymond Wallace and B. F. Travis, and presents a very creditable appearance.

Practical Medicine Series.

The November number of this valuable series of Year Books (ten volumes to the year at $5.50, or $1.50 for separate volumes), is devoted to general surgery. It is edited by Dr. John B. Murphy, Professor of Surgery in Northwestern University Medical School, Chicago. Publisht by The Year Book Publishers, 40 Dearborn street, Chicago. It contains some very interesting matter for every surgeon, especial attention being directed to the matter of clinical manifestations and pathologic changes in their relation to preventive surgery, the distinguisht editor believing that operators should not be merely scavengers of pathologic products. The pages devoted to the vermiform appendix are especially interesting, and illustrative of the author's contention.

Monprofit's Gastro-Enterostomy.

A book of unusual interest to the surgeon who reads French is "La Gastro-Enterostomie," by A. Monprofit, M.D., Professor de Clinique Chirurgicale a l'Ecole de Medicine, Chirurgien de l'Hotel Dieu d'Angers. It is an octavo volume of some 400 pages with 300 illustrations devoted to every possible phase of the operation of gastro-enterostomy. A peculiar feature is the prominence given American work: Murphy, Brokaw, Mayo, Abbe, Senn, Robinson, Dawbarn, McGraw, Ransohoff (whom the author designates as of "European origin"), and Weir, receiving as much consideration as the most celebrated operators of the old world. Another conspicuous thing is that German authors like Schede, Kocher, Czerny, Von Hocker, Hahn, Woelfler, Lowenstein and Hartmann are given as full credit as their French competitors. It is publisht by the Institut International de Bibliographie Scientifique, 93 Boulevard St. Germaine, Paris.

Sutton's Work on Tumors.

A third edition of "Tumors—Innocent and Malignant," by J. Bland, Sutton, F.R.C.S., Surgeon to the Chelsea Hospital for Women, and Assistant Surgeon to Middlesex Hospital, London, has lately been issued by W. T. Keener Co., of Chicago. As now gotten out, it is a beautiful book of 556 pages, plentifully illustrated, concisely written and wonderfully exact. No surgeon or gynecologist who pretends to have a modern library can afford to be without this book; and having obtained it should read it from beginning to end. There are things in it.

Fischer's Infant-Feeding.

A modern book on all methods of feeding. For students, practitioners and nurses. By Louis Fischer, M.D., Visiting Physician to the Willard Parker and Riverside Hospitals, of New York City; Attending Physician to the Children's Service of the New York German Poliklinik; Former Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine, etc. Third edition, thoroly revised and largely rewritten. Containing fifty-four illustrations, with twenty-four charts and tables, mostly original. 357 pages, 5¾ x 8¾ inches. Neatly bound in extra cloth. Price, $2.00, net. F. A. Davis Co., publishers, 1814-16 Cherry street, Philadelphia, Pa. This book is based upon the practical experience gained by more than ten years' work in one of the largest clinics in the world devoted to diseases of children, as well as upon knowledge gained as a student of Baginsky of the Kaiser Friederich Children's Hospital of Berlin. Dr. Fischer is well-known to most readers of the Journal as a forceful, careful author. Nowhere is his forcefulness and carefulness more fully shown than in his treatise on infant feeding. He approaches his subject from the standpoint of both an experienced practitioner and an enthusiastic scientist; and the result is a book which may be read with profit by everyone.

Phillips on Prostatic Hypertrophy.

Thru Lewis S. Matthews & Co. the Journal has received a little book of 176 pages entitled: Prostatic Hypertrophy from Every Surgical Standpoint, by George M. Phillips, M.D., Professor of Genito-Urinary Surgery in the St. Louis College of Physicians and Surgeons. It is edited by S. C. Martin, Jr., M.D., well known thru his connection with the Medical Era. Dr. Phillips submitted a number of important questions to some of the most eminent American surgeons (Senn, Murphy, Bernays, Wyeth, Morris, Park, Ferguson, Guiteras, Martin, Mayo, Ochsner, Bransford Lewis, Ricketts, Valentine, etc.), and then compiled their answers. The result is a most interesting little volume which may be had for $1.75.

Fox's Diseases of the Eye.

Diseases of the Eye. By L. Webster Fox, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia, Pa., with five colored plates and 296 illustrations in the text. Small octavo, pages xix—584. New York and London: D. Appleton & Co., 1904. Good paper, excellent press work and creditably made illustrations leave a favorable impression when one looks at this book. The book, however, contains numerous illustrations which have been "borrowed" or "modified" without credit being given to the source. Figs. 10, 11, 12, 13, 14 and 15, representing the vascular and nervous supply of the orbit and eyelids, are enlarged and colored modifications of the plates of Samuel Thomas Soemmering (1755—1830), whose **Icones oculi humain** attest the skill of this great anatomist and prolific writer. Demours (**Traite des Maladies des Yeux, Paris, 1818**), used Soemmering's plates and gave him credit for them. Many of the illustrations are wrongly credited. Thus, Figs. 74, 82, 83 and 84, representing microscopic changes in the cornea, are attributed to Magnus. They should be credited to Baas. Fig. 73, showing stages in the development of phlyctenules of the cornea is not credited to anyone—and is taken from Prof. Dr. Karl Baas's **Anatomie der Hornhautentzuendung und des Hornhautgeschwueres, Breslau, 1900.** Many other illustrations are likewise "appropriated" without credit—a serious oversight. Dr. Fox has given excellent descriptions of numerous operative procedures, some of which are his own. The reviewer must differ with the author when he advises in cases of glaucoma that, before making an iridectomy three or four instillations of esserine (gr. i to oz. iii) should be used. If an iridectomy is attempted under such circumstances, when "the pupil has become contracted to the size of a pin-point," the operator may tear the iris loose from its peripheral attachment at the moment when he is trying to withdraw this delicate membrane thru the scleral wound. Dr. Fox's book contains little pathologic knowledge, and some of what is given is behind the times. It is also to be regretted that one cannot find any notice of blastomycetic dermatitis, fistula of the cornea, and numerous other topics which should be mentioned in a modern text book of ophthalmology.

Recent Reprints.

Some very interesting reprints have lately been received. Among them may be specially noted: "Education the Funda-

mental Principle in the Prevention of Pulmonary Tuberculosis;" by C. Wood Fassett, M.D., St. Joseph, Mo., editor of the Medical Herald. "Strictures of the Male Urethra;" by R. H. Greene, A. M., M.D., Genito-Urinary Surgeon to the French Hospital, New York. "Cancer of the Prostate;" by the same author. "Abdominal and Pelvic Surgery without Ligatures;" by A. J. Downes, A.M., M.D., Gynecologist to St. Mary's Hospital, Philadelphia. "The Practical Side of Electrothermic Hemostasis;" by the same author.

The Worth of Words.

Dr Raley Huested Bell, formerly a conspicuous figure in St. Louis, sometime editor of The Raven, Moody's Magazine, The Medical Mirror, etc., has written a most excellent little book with this title—which has very quickly passt to its third edition, after careful revision. The success of this book was widely predicted by the press last year, and is justified by Dr. Bell's scholarly work. He has treated the subject in a new and simple manner and after his own peculiar style, which is never dry or wearisome. For it is toucht, here and there, with glowing humor, deft strokes of sarcasm, and lighted with flashes of wit; all of which sustains interest in a subject usually too heavy for enjoyable reading. The book will be found useful to all who would speak and write good English: the editor, lawyer, doctor, man of affairs, student in art or science or devotee of fashionable society. The arrangement of subject matter in pithy paragraphs of alphabetical sequence, and with marginal notes, makes it very handy as a ready reference book. Dr. Bell is well known as a poet in literary circles, and stands high in the profession of medicine as a writer and editor, while as a Fellow of the American Geographical Society and member of other scientific associations, he is equally well known. The "Worth of Words" is printed in clear type; contains 336 pages. The library edition is bound in cloth, brown and gold, with gilt top and cut pages, and sells for $1.25, postpaid. It is publisht by Hinds & Noble, 31-35 West Fifteenth street, New York City.

GYNECOLOGICAL NOTES.

New Treatment of Dysmenorrhea.

Under this heading, Charlotte Medical Journal quotes Dr. Emil Ries, Professor of Gynecology in the Chicago Post-Graduate Medical School, as saying that every "self-respecting" text book of gynecology informs us that "dysmenorrhea is not a disease, but a symptom." Nevertheless, the majority of these books proceed immediately thereafter to a discussion of dysmenorrhea in a special chapter apart from the systematic consideration of the pathological changes in the female sexual tract. This unsatisfactory knowledge of the etiology of dysmenorrhea is mirrored in the more unsatisfactory results of the therapeutics of this symptom. The cases of dysmenorrhea that are amenable to successful operative treatment are comparatively few, and belong to a few well-known and well-defined classes with distinct pathological changes. Once diagnosed, they yield to proper operation. Certain cases—pathological anteflexion, pinhead os or stenosed cervix—are operated on frequently with negative results. Medical treatment, if less ruinous to the patient's sexual organs, is only too liable to deviate into the smooth and easy downward path to the opiate, which leads to the perdition of body and soul. The bicycle has probably done more for women with dysmenorrhea than any medical treatment, but unfortunately, it is falling into disuse. Under these conditions, all progressive men must be willing to investigate every new idea that is offered in the treatment of dysmenorrhea, if it proves, first, harmless, and, secondly, reasonably successful, and if it has a sound basis, such as the Fleiss treatment of dysmenorrhea. Fleiss, a rhinologist, read a paper before the Berlin Obstetrical Society in 1897, giving a series of experiments which had convinced him that there was a species of dysmenorrhea dependent on changes in the nose, and curable by the treatment of these nasal conditions. He mentions two classes of this condition. In one the pain stops as soon as the menstrual flow begins. This class does not belong to what he calls nasal dysmenorrhea. The cases in which the pain continued after the beginning of the flow presuppose a certain pathological condition of certain spots in the nose, which he termed "genital spots." These spots are on the inferior turbinated bones and the so-called tuberculum septi. At the time of the menses these areas increase in size and sensitiveness, bleed easily, and are more or less cyanotic. In women with "nasal dysmenorrhea" the pain disappears immediately as soon as these spots are treated with a few drops of a 20 per cent solution of cocaine. This treatment was successful in four cases, one of which within the last year has been dilated, curetted, and a Sims operation done on the cervix without success. In all four cases the effect of the cocaine was surprising to the doctor as well as to the patients. Series of experiments along this line should be conducted in order to determine the modus operandi of the treatment; and the following is suggested: (1) Use the treatment according to Fleiss. In case of positive result use (2) cocaine in the pharynx, (3) cocaine on areas outside the genital areas in the nose, (4) some astringent solution instead of cocaine, (5) plain water at body temperature. Of course, the patient must be ignorant of what solution is being used. The result of the varied applications will show for how much the element of suggestion counts in the treatment. The treatment is so exceedingly simple and so easily applied that every practitioner can aid in the determination of the value of this method. There is the possibility of the patient's getting into the cocaine habit in consequence of the success of this treatment of dysmenorrhea.

Acute Symptoms from Dermoid Cyst.

At the New York Polyclinic Medical Society recently, Dr. James P. Tuttle showed a very unusual specimen of a dermoid cyst. There was practically no history until the day previous to the operation, when the patient, a girl about eighteen years of age, went to the office of her family physician and complained of difficulty in making her bowels move, and excessive pain when they did move. She was given an enema and a laxative. The next morning she had a chill. Examination then revealed a tumor in the left inguinal region about the size of a small orange. Her temperature was about 100° F. Three hours later the tumor had apparently increast about two-thirds in size, and the girl's temperature was 102° F. Dr. Tuttle was called in consultation and found her with a temperature of 102° F., inability to move her bowels, and a fluctuating mass in the left iliac region and in the recto-sigmoidal juncture. His diagnosis was hematoma. The following day her pulse was faster and there seemed to be hemorrhage, so the vagina was opened thru the posterior cul-de-sac, and about six ounces of clear, serous fluid was evacuated. Passing his hand further up, a large tumor was found, and the operator, supposing it to be an abscess, poked his finger thru a rent in the apparent capsule, and fluid gusht forth, which, on bacteriological examination, proved to be filled with fat. Inside the capsule was a tumor, which was removed thru the vaginal opening. On one side of the tumor were four protuberances, just in line. The mass, which was on the left side, was attacht by a pedicle to the posterior surface of the right lobe of the liver. The tumor had apparently been lying in the posterior cul-de-sac and the hemorrhage pusht the tumor up to the position in which it was found at the time of operation.

Death from Hemorrhage in Premature Labor.

A case of this kind is reported in Annals of Gynecology by Dr. Edward P. Davis, of Philadelphia. The patient was 23 years of age and in her third pregnancy. Her previous labors had been spontaneous, but were long and severe. She was markedly anemic. For six weeks she had daily bleeding. She was seven months pregnant upon admission to the Jefferson Maternity, and remained in bed until the termination of labor, ten weeks later. There was no evidence of placenta previa. Hemorrhage ceast when she was put to bed. When labor occurred there was delay thru inertia, complete dilatation was secured artificially, and a living child delivered by forceps. The mother made a good recovery and left the hospital with her child in fairly good condition. About eighteen months afterward this woman was again admitted to the Maternity, five months pregnant and she had had severe hemorrhages. The patient was soon delivered, and did well for a week, when hemorrhage recurred. The uterine cavity was carefully explored, found empty, and was packt with iodoform gauze. The hemorrhage ceast, but recurred a week later, and was controlled in the same way. Two weeks later another severe hemorrhage occurred, which was controlled with gauze packing. The patient died two weeks subsequent of exhaustion following a return of the hemorrhage. In the absence of a history of hemophilia and placenta previa, it is difficult to find an adequate explanation for the hemorrhage. Syncytioma malignum presents itself as a possible and even probable explanation, and a more complete autopsy might have given evidence of its presence. There was no fibroid growth present in the uterus, nor was there any other lesion of the pelvic organ. No measure, except compression by gauze seemed to influence the bleeding. At no time did the patient's condition justify hysterectomy.

SURGICAL NOTES.

Abdominal Section in a Young Child.

A case of perforation of the bowel from typhoid ulcer in a child six years of age was reported to the Philadelphia Pediatric Society lately by Dr. John H. Jopson. The perforation had taken place at the beginning of the third week of the disease, and the patient had not been admitted to the hospital until general peritonitis had developt, twenty-four or forty-eight hours after perforation had occurred. The perforation was located eight inches from the ileocecal valve, in the ileum. It was small and round, and the neighboring gut-wall was healthy. The perforation was easily sutured, and the abdominal cavity was irrigated and drained. The patient lived seventy-two hours after the operation, dying of general peritonitis. After death the perforation was found to be tightly occluded. The general condition before and for twelve hours after the operation was very fair, considering the lesions found. This emphasizes Elsberg's conclusion that in children shock is not usually markt after perforation. That author found the prognosis to be twice as good in children as in adults; and perforation to be nearly as common, in proportion to the number of cases, between the ages of six and fifteen years. Elsberg's case, the youngest operative case that Dr. Jopson had found reported, was six and a half years old.

Burns by Radium.

The results of some experimental work with radium by Drs. S W. Goldberg and E. S. London, are described by Journal of American Medical Association; saying that a small box with a mica cover, containing 75 mg. of radium, was fastened on Goldberg's arm and left there for three hours. No effect was apparent until four days later, when a red patch developt about the size of the box cover. This became transformed into a necrotic ulcer by the fourteenth day, spreading until it presented the aspect of a serpiginous ulcer, and four other ulcers developt at different points on the arm, passing thru the same phases from the red patch onward. A similar patch developt further on the chin, groin and hand, terminating likewise in necrosis of the corium. The healing process commenced first in the later patches. At the date of writing, the first patch still presents an atonic ulcer, gradually healing and only half as large as it was at one time. The action of radium is proportional to its radioactivity, and not to its bulk. Further experiments on animals showed that a lump of 75 mg. was much less effective than another weighing only 30 mg. The entire process runs an almost painless course. The exposure and all the subsequent phenomena were painless. The necrosis develops without fever, and the ulcer has a peculiarly torpid character. In 2 cases of rodent ulcer of the nose and cheek, treated by half-hour exposure to radium once a week, the lesion gradually healed by a process of evident sclerosis. By the end of two and a half months the cosmetic results were most excellent. One of the patients, thus treated for a total of four and one-half hours, has nothing left of the ulcer except a lighter-colored patch of skin and slight depression.

Treatment of Hip-Joint Disease.

In a paper read before the American Orthopedic Association Taylor (Charlotte Medical Journal) says that in view of the power which improved methods of skiagraphy afford of locating small tubercular lesions in bone, and the means that we have at our disposal of disinfecting tubercular foci, such as carbolic acid and alcohol, formalin, etc., and the whole question of the treatment of joint tuberculosis, should be reconsidered. Of late the tendency has been to avoid direct attack on the disease and rely on rest and fixation with attention to the general health, and to reserve operation for the evacuation of abscess and the correction of deformity in cases where the disease is quiescent. This has been probably a swing of the pendulum from the older tendency to perform excisions in all cases, with the idea of eradicating the disease, but unfortunately leaving great shortening. He describes several cases where lesions in the head of the femur (localized by means of skiagrams), he opened the joint by an anterior incision, scraped out the focus, and disinfected the wound with pure phenol and alcohol, or 2½ per cent solution of formalin, and treated the case after by means of rest and fixation and attention to the general health. This is what he calls the rational or combined method of treatment, and claims that it shortens the treatment of cases and lessens the chance of recurrence, and is not open to the objection of causing shortening as excisions do. In mild cases where no focus can be detected, he uses rest and fixation alone.

Local Anesthesia.

Dr. F. Gregory Connell, of Leadville, Colo., has an excellent paper on this subject in Annals of Surgery, December, 1903, in which he quotes Reclus, who has done 7,000 operations under local cocaine anesthesia, and in all these cases has never met with a death that could be in any way attributed to it. Connell places great importance upon the following rules: (1) Never use a stronger solution than 5 per cent, generally 1 per cent. (2) Always have the patient recline during the administration of the drug, and not get up for half an hour after the operation is completed. (3) Always have the patient eat or drink something before arising. A careful search of the literature on this subject (by Reclus) has failed to show a single case of mishap in which these rules have been followed or approximated. The other objection to the use of cocaine, namely, that it cannot be rendered sterile by heat, is met with these statements. Cushing says: "Contrary to the experience of many, we have found that one or two sterilizations fail to diminish its efficiency." Riley subjects properly selected crystals of cocaine to dry heat. "One hour's heating of the dried cocaine at this temperature, 302° to 320° F., does not impair its efficiency." Matas has found "that cocaine solutions can be heated up to the boiling point for a number of times without losing their efficiency." To diminish the danger of over-absorption of the cocaine solution in the infiltration or other methods, Braun advocates the use of adrenalin chloride before or with the injection. This plan is also valuable because of the hemostatic and stimulating action of the adrenalin. The strength used is from 1-to-5,000 to 1-to-20,000. The author has employed cocaine anesthesia in 50 cases for various pathological conditions, and has met with evil effects in three instances. In a series of over 80 cases, in which betaeucaine was employed, no such symptoms made themselves manifest. In one of his cases, where Schleich solution No. 2 was employed for the radical cure of double inguinal hernia, a sloughing of the skin of the margin of the wound on one side occurred. The other side healed per primam. Among the operations performed by the author under local anesthesia may be mentioned appendectomy, Talma's operation, suprapubic cystotomy, exploratory laparotomy, inguinal and ventral hernia.

Intestinal Localization.

In a paper with this title, Dr. George H. Monks, of Boston, has described (Annals of Surgery) certain characteristics of the small intestine, by which it is possible to judge the relative position of any part of the same. As the average length of the small intestine is about twenty-one feet, the first seven feet are generally found in the left hypochondrium, the next seven feet in the middle section of the abdomen, and the rest in the pelvis and right iliac region. The color of the first fourteen feet is bright pink and that of the last seven feet, yellowish gray. From the duodenum downward the intestine decreases in size and thickness. There are numerous valvulae conniventes in the last third, fewer and smaller in the second third, and none in the last third. The mesentery is thin and transparent in the upper part, and thick and opaque near the colon. Small masses of fat on the intestinal insertion of the mesentery come in the middle and last third of the small intestine. The vessels of the mesentery from only one loop in the first four feet, further down two loops, and in the lower part of the ileum there is much irregularity. By these means Dr. Monks was able to locate with approximate accuracy on the cadaver any loop of the small intestine extracted thru an abdominal incision.

Surgical Treatment of Graves's Disease.

Five cases of exophthalmic goiter successfully treated by operative measures are reported in St. Paul Medical Journal, January, by Dr. Arnold Schwyzer. He believes that surgery offers the only good and reasonable hope in serious cases; that even in the milder cases, medical treatment can not promise anything definite. He asks why, then, even in moderate cases, if the treatment is unsatisfactory, should we not prefer an operation which in competent hands is only slightly dangerous and which, beside being a better guarantee for a more lasting cure, saves so much time and anxiety? He thinks the transitory or atypical forms or cases lacking a cardinal symptom ought not to be included as surgical cases, and only cases with distinct exophthalmic goiter should be considered. Otherwise the surgeon would run the risk of being charged with having operated on cases of simple thyroidism so often found in adolescent patients. But only in mild cases where internal treatment is satisfactory or operation is refused is internal medicine to be depended on. In all others, surgical measures are advisable and preferable.